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ON A LOST BRITISH WILD GOOSE, *ANSER PALUDOSUS* (STRICKLAND).

By F. COBURN.

(PLATE III.)

WHEN investigating the specific validity of *Anser gambeli* (*ante*, pp. 387) last winter, I resolved upon the overhauling of my entire series of British Wild Geese, some fifty to sixty mounted birds.

Upon coming to the turn of *Anser segetum*, I for the first time critically examined a bird which had always been a puzzle to me, and which I procured from St. Abb's Head, Scotland, on the 25th February, 1896. It was my intention at the time to fully examine the curious characters of this bird, but through extreme pressure of other business it was placed in a cabinet, and practically overlooked until this year. Fortunately I did not depart from my usual practice of making special notes on the colours of soft parts, and taking weight and measurements.

The characters of this bird which struck me most forcibly were its great size, being as large and heavy as a very big Greylag; the enormously lengthened swan-like neck; large and also swan-like feet; and the remarkably and distinctly shaped and coloured bill. These convinced me that the bird could not be *A. segetum*.

Upon further investigation, and a study of Count Salvadori's descriptions of the Wild Geese in the Brit. Mus. Cat. Birds, vol. xxvii., I was led to infer that the bird might be *Anser serrirostris* of Swinhoe, a name copied by Swinhoe from a manuscript left by the late John Gould, who intended to publish this name, but death intervened. I was strengthened in this belief from the fact that the serrations on the *lower* mandible of my bird were totally distinct in shape to those of *A. segetum*. However, I could not find any full description of this bird, and, subsequently receiving an invitation from Dr. Bowdler Sharpe to dine with the British Ornithologists' Club at their June meeting, I took my specimen, together with *A. rubrirostris*, to exhibit before the members.

Upon comparing my bird with the skins in the National Collection, I found that it was not *A. serrirostris*; and further, that there was no specimen in the Museum which would at all agree with my bird, especially as regards shape and colouration of bill. The result was that I could not formally bring the bird under the notice of the Club that evening, and did so incidentally only, pending a still fuller investigation at the Museum the next day, under the kindly assistance of Mr. Eugene W. Oates and Mr. Stewart Baker. The net result of this examination was simply to confirm my first enquiry: there was no bird like mine in the National Collection, and Mr. Oates intimated that I should be justified in giving the bird a name. This I was unwilling to do until further enquiries had been made, and I had prepared a paper for 'The Zoologist,' pointing out the characters of the bird. In the meantime I continued my investigations, and have now, I think, got to the real root of the subject, and can put a totally different complexion upon it.

There need be no doubt whatever that my specimen is the Long-billed Carr-lag Goose (*Anser paludosus*), first described by Strickland in 1858 before the meeting of the British Association at Leeds; and that Strickland was perfectly justified in describing the bird as a distinct species, there can be no shadow of doubt. It is much to be regretted that his observations did not receive more consideration at the time, as it is this neglect which has led to the bird being almost totally overlooked and forgotten for nearly fifty years. This might not have occurred but for a note



published in the 'Proceedings of the Zoological Society' (1861, p. 19), from Mr. A. D. Bartlett, asserting that the bird described by Strickland as *A. paludosus* was only an old male Bean-Goose. This was an unfortunate error of Bartlett, brought about probably by the very poor outlines of bills published by Strickland in the 'Annals and Magazine of Natural History' (1859, 3rd series, vol. iii. p. 124). If Bartlett (or anyone else) had ever seen a specimen of the Long-billed Carr-lag Goose like the one which is now before me, he would not have been inclined to declare that it was only a very old Bean-Goose. However, so much acceptance appears to have been accorded to Bartlett's note that it effectually disposed of Strickland's new species, which has been disregarded until the fortunate acquisition of my specimen has brought it to the front again; at all events, I hope this will be so.

It is deeply to be regretted that so little information concerning this once resident and breeding, but now completely banished, British bird remains to us. Practically all we know is contained in Strickland's paper, and he had, it would seem, to depend upon the information supplied by the carr-men; for the bird had disappeared even before his time.

I cannot do better than here quote some of Strickland's observations on this bird. He says:—"Before the beginning of this century, when the carrs of Yorkshire were the resort of countless multitudes and numerous species of wildfowl, giving employment to numbers of decoy-men, fowlers, and carr-men, I understand it was stated there were two species of Geese frequenting *and breeding* in the carrs, known by these people by the name of the Grey-lag and the Carr-lag. What the Grey-lag was is well known, as fortunately that bird retains the name originally given to it by the fowlers. What the Carr-lag was it is probably impossible now to demonstrate; but I have every reason to think it was this Long-billed Goose—a bird that resided and bred in the carrs along with the Grey-lag, and, like that, is no longer to be found in these districts, and, as far as I know, is not at present to be found in any part of this country, and is now one of our rarest British birds, or almost a lost species. This bird is distinguished from the Bean-Goose by its *entirely different habits*, and, as before stated, by its long bill. It

may be thought by some that this difference of length may be the result of age ; but this cannot be maintained, as its bill is small and weak, *suited to its aquatic habits*—very unlike the short bill of the Bean-Goose, suited to its granivorous and herbivorous feeding."

Here then we get the crux of the whole matter. A Goose of aquatic habits would need a long swan-like neck and large swan-like feet, the two characters which are so striking in my bird ! In the illustration which accompanies this paper, I publish for the first time the head and neck of *Anser paludosus*, side by side with that of a typical *A. segetum*. For their portraits to be taken the birds were placed opposite each other on exactly the same level, so that a glance will show the extraordinary disproportion in the length of neck in each bird ; at the same time the difference in shape and the remarkable colouration of bill in *paludosus* are apparent. I feel sure that no one who may critically examine these figures will fail to be convinced that the birds are of totally distinct species. A question which may have to be discussed in the future will be, whether the bird should not be placed nearer to *Anser cygnoides* than *A. segetum*. It is almost incredible that a bird so handsome and striking in appearance as this is should have so completely escaped observation, not only here, but on the Continent as well. I can only ascribe this to the extreme rarity of the species, for it is certain that if Count Salvadori had ever seen the bird he would not have passed it over.

As no complete description of this species has ever been published, so far as I can discover, I here append one :—

As before stated, the bird is of very large size, equalling a fine Grey-lag. The general tone of colouration of plumage resembles that of the Bean-Goose, but is much bolder and decisive-looking. The head is blackish umber from sides of bill, fading into a dark drabish umber for rest of head and upper neck ; at base of bill the faintest possible trace of white, curiously exaggerated by the camera in figure (p. 445) ; the middle and lower neck has a distinct rusty brown tinge. Mantle deep dusky brown, broadly margined with pale drab and light brown. Back and rump dark slaty brown. Upper tail-coverts white, the middle ones clouded with drab. Tail of eighteen feathers, long and broad, of a rich seal-brown, each distinctly fringed and very broadly terminated with white. Breast

and flanks drab, margined with paler, the flanks gradually becoming a rich seal-brown, broadly margined with white. The middle of the under parts are very pale whitish drab, gradually becoming white on abdomen and under tail-coverts. On the middle of the breast there is a black feather, with several others showing the dark pigment being thrown into them, while at the roots of most of the feathers on the sternum a dark colouring matter is making its appearance. This is very important indeed, as it indicates that during the



Anser paludosus, Strickl. Front view of bill.

breeding season the under parts may become black, a character quite unknown in the Bean-Goose. The upper wing-coverts are a dark bluish slate, gradually becoming rich hair-brown, broadly margined with dull white on the medians and first coverts. Primaries dark seal-brown, the rib white. Secondaries almost black, margined and fringed with dull white. Tertiaries rich seal-brown, very broadly margined with dull white; giving a very conspicuous appearance to the upper parts of the bird. Alulae rather pale bluish slate. Axillars and under wing-coverts dark slate. At the bend of the

wing a protuberance, which may have had a spur on it at some time. The bill is long, slender, and straight along the culmen, orange-yellow in colour from base to nail; along the culmen, commencing about half an inch from base, there is a remarkable shield-shaped patch of black, which will be best understood by referring to the figure. The nail is slaty black in colour, and larger in proportion than that of *A. segetum*. The under mandible is black from the base for three parts of its length, then a band of orange-yellow, and terminated with a black tip. There is a very important feature in connection with the bill. The serrations on the upper mandible are large and distinct, but do not show to advantage in the photograph. On the lower mandible the serrations are remarkable and quite distinct from those of *A. segetum*; they are large in size, sharply pointed, and directed backward, whereas in the Bean-Geese they are straighter, blunt, and more fused together. This suggests that the bill is adapted to pulling up roots of aquatic vegetation, and is a further valuable proof of the aquatic habits alleged by Strickland. The feet are very large, with the inside nails curiously curved inwards like those of a Swan; the first nail on foot white in colour, second and third half black and white. The legs, toes, and webs are orange-yellow in colour. Iride dark hazel. Weight, 8 lb.; total length, 35 in.; wing, 19 in.; tarsus, 3.55 in.; centre toe, 3.35 in.; bill, 2.60 in.

This bird appears to have been banished from Great Britain for something like a century! it must have found a home somewhere else—but where?

It has been suggested to me that *A. paludosus* may be identical with Brehm's *A. arvensis*. A paper on this latter bird has quite recently (Oct. 4th, 1902) been communicated to the 'Field' by Mr. Frohawk, who endeavours to prove that this is the common Bean-Goose of our land. I cannot at present agree with him on several points he raises.

At first I was somewhat inclined to think that *A. paludosus* might be identical with *A. arvensis*, as there is certainly some similarity between the bill of my bird and of that figured by Mr. Frohawk, but more mature study has for the present dispelled the idea. There is a similarity, and that is all. There are differences which would need much explanation. Mr. Frohawk appears to have examined a considerable number of Conti-

mental skins of *A. arvensis*, but he makes no mention of the long neck and swan-like feet. I do not think that Dr. Brehm would have bestowed such a name as *arvensis*—i. e. appertaining to a meadow or arable land—on a bird possessing such distinctly aquatic characters as a long neck and large feet imply. Further, as Brehm's name was given to his bird in 1831, it must have been well known to such an ornithologist as Strickland in 1858, who would not have given such a distinctly opposite name as *paludosus* (i. e. marshy or boggy) without good reasons for so doing. I am forced to the conclusion that *arvensis* does not possess these characters, consequently cannot be confused with *A. paludosus*. As none of the German works containing Brehm's observations on this bird are available where I write, nor are Continental skins, I am not in a position to hazard an opinion as to the specific validity of this bird.

There is one point in Mr. Frohawk's paper upon which I may touch briefly. It appears to me that he has too hastily come to the conclusion that the black on the bill of what he terms the true *A. segetum* must in all cases come well below the nostrils, leaving only a narrow band of orange. On this point Strickland, who must have seen great numbers of *A. segetum*, says: "But they vary greatly in the quantity and form of the black; indeed, I have seldom found two alike." This is my experience, and must also be that of others who have had much to do with Bean-Geese. A glance at my figure will show the typical bill of *segetum*, but with the yellow colour extending almost beyond the nostrils; in other cases I have seen the yellow reaching almost to base of bill. The fact is that the black is not permanent and both *paludosus*, *arvensis*, and *segetum* may have the black extending to below the nostrils at *some* period, but it fades away at others, leaving the bill in the latter bird sometimes entirely yellow, as is the case with a specimen now in the British Museum. In the case of the two former birds, the black remains only on the shield-shaped space of the first and the bar of the second. A change takes place in the colouring-matter on the bill of Bewick's Swan and several Ducks; why not in the Geese also?

This paper has already much exceeded the space I intended it to cover, notwithstanding which I shall have to pass over

several interesting points, and, in conclusion, direct attention to the very narrow escape this bird has had from complete oblivion. Utterly ignored by those of our forefathers who gave their time to ornithology, it appears to have been known only to those keen outdoor observers, the marsh-men and carr-men of half a century back. Their observations fortunately fell upon the discriminating ears of Strickland, but not until the bird had vanished from its native haunts.

How near these valuable observations of Strickland have been to complete oblivion, I have shown in the preceding pages. The appearance in Scotland of this solitary specimen of the long-lost bird, and its passing into my hands, are incidents almost sensational, if the full details were made known.

BIRDS COLLECTED AND OBSERVED IN THE
DARBHANGA DISTRICT, TIRHOOT, BENGAL.

By GORDON DALGLIESH.

(Concluded from p. 389.)

Inocotis papillosus, Temm. (Black Ibis).—Very common. Generally known to planters as the “planter’s friend,” as they are useful in destroying insects injurious to the indigo plant. They are excellent birds for the table, but are difficult to shoot on account of their extreme wariness.

Plegadis falcinellus, Linn. (Glossy Ibis).—Not common. A fine male in breeding plumage was snared in March, 1901.

Platalea leucorodia, Linn. (Spoonbill).—I have never come across this species, but have a skin given me by Mr. Inglis, shot at Jainajar in January, 1897.

Ciconia alba, Bechst. (White Stork).—Very common in winter. These birds are caught by native fowlers, who sew the birds’ eyelids together; they are then placed on the edge of a piece of water as a decoy for other wildfowl. This cruel practice is common with all big birds, as Herons, Ibises, &c.

C. nigra, Linn. (Black Stork).—I only once saw this bird.

Dissura episcopus (White-necked Stork).—Fairly common, and often seen in large flocks. This bird is known to Europeans in India as “Beef-steak bird.” I once found a nest of this species; it was made of sticks, and placed in a lofty simul, or cotton-tree.

Xenorhynchus asiaticus, Lath. (Black-necked Stork).—A not uncommon resident.

Pseudotantalus leucocephalus, Penn. (Painted Stork).—A pair were seen near Darbhanga in May, 1901.

Leptoptilus dubius, Gmel. (Adjutant).—Seen occasionally during the monsoon.

L. javanicus, Horsf. (Lesser Adjutant).—Seen at Narhar by Mr. Inglis in November, 1898.

Anastomus oscitans, Bodd. (Open-Bill). — Fairly common by the sides of large pieces of water, and in rice-lands.

Ardea cinerea, Linn. (Common Heron). — A common winter visitor.

A. manillensis, Sharpe (Purple Heron). — Not so common as *A. cinerea*, but fairly plentiful in the cold weather.

Herodias alba, Linn. (Great Egret). — Scarce. I shot one in January, 1900, and saw another in February.

H. intermedia (Lesser Egret). — Several snared by fowlers in April, 1901.

H. garzetta, Linn. (Little Egret). — I saw one at Dalsingh Serai in August, 1900. It was in full breeding plumage.

Bubulcus coromandus, Bodd. (Cattle Egret). — Very common. It assumes breeding plumage in April. They breed in August in mango trees. Are very seldom seen fishing like other Egrets, and are often seen perched on the backs of cattle, or feeding near them.

Ardeola grayi, Sykes (Pond Heron). — Extremely common by nearly every piece of water. This bird is known to Europeans in India as "Paddy Bird." They breed in April in mango-groves, usually near water. From four to five is the full complement of eggs.

Butorides javanica, Horsf. (Little Green Heron). — Fairly common. It keeps to dense reed-beds during the day, and feeds chiefly at night. Breeds in colonies in May, June, and July.

Nycticorax griseus, Linn. (Night Heron). — Rare. I have very seldom come across any, and only possess a single specimen.

Ardetta sinensis, Gmel. (Little Yellow Bittern). — Very rare. I procured only one specimen at Dalsingh Serai in December, 1900.

A. cinnamomea, Gmel. (Chestnut Bittern). — Fairly common. I found one nest in August, 1900. The nest was simply a pad of rushes, and placed on the ground near a small pond ; it contained five fresh eggs.

Dupetor flavicollis, Lath. (Black Bittern). — I shot one pair at Bunhar Factory, Samastipur, in February, 1899, and Mr. Inglis procured another pair near Darbhanga.

Botaurus stellaris, Linn. (Bittern). — I shot one pair of this

species in four years. I do not think they are very common, but may be overlooked on account of their shy skulking habits. One of the birds I shot was only wounded, and made repeated savage thrusts at the man whom I sent to pick it up.

Anser indicus, Lath. (Barred-headed Goose).—Not a very plentiful bird anywhere in the district. It arrives in October, and stays sometimes till June.

Sarcidiornis melanotus, Penn. (Comb Duck).—A small flock was seen by my brother at Dalsingh Serai in May, 1899, and one (a male) was shot. I happened to be away at the time, and the bird, which had been badly skinned by a native, was sent to me for identification, but arrived in a state of putrefaction.

Rhodonessa caryophyllacea, Lath. (Pink-headed Duck).—Mr. Oates, in his book on the 'Game Birds of India,' mentions Tirhoot as one place where this Duck is to be found. I never came across it myself, but Mr. Inglis writes me: "The man who brought me Duck and Teal described a bird, evidently this species, that was snared."

Casarca rutila, Pall. (Ruddy Sheldrake).—A common cold weather migrant, often staying on well into summer. They are, I have always found, extremely wary birds. Their flesh is not fit for the table, being very fishy in flavour.

Dendrocygna javanica, Horsf. (Whistling Teal).—A very common resident, often seen in flocks of many hundreds. They nest in trees during July and August.

Nettopus coromandelianus, Gmel. (Cotton Teal).—Very common on nearly all marshes. It breeds in July in the holes of trees.

Anas bosca, Linn. (Mallard).—Rare. A pair were shot out of two pairs on Hattowrie Lake, Darbhanga, in December, 1897, and I saw a solitary female at Dalsingh Serai in January, 1900, flying in company with some Gadwall.

A. pæcilorhyncha, Forst. (Spotted-billed Duck).—Mr. Inglis procured a specimen in June, 1900, and I saw a pair at Dalsingh Serai in June, 1901.

Eunetta falcata, Georgi (Bronze-capped Teal).—Mr. Inglis was fortunate enough to secure seven of this rare species in the Mudubuni district, Darbhanga, in January, 1900—two males and five females. He very kindly gave me the skin of one of the females.

Chaulelasmus streperus, Linn. (Gadwall).—This is one of the commonest Duck found here in the cold weather. They begin to arrive very early, as in the year 1900 I saw a big flock on August 20th at Dalsingh Serai. I have never found this species shy unless they have been shot over a good deal. They seem to have no favourite haunts, and are found alike in both deep and shallow water. They are good divers when wounded, and I have always found the female better at concealing herself than the male.

Nettium crecca, Linn. (Common Teal).—Extremely common from November to March.

Mareca penelope, Linn. (Wigeon).—Scarce. I have very seldom seen this species, and possess very few specimens.

Dafila acuta, Linn. (Pintail).—Very common, arriving towards the end of October and leaving in February. During the cold weather of 1897 this Duck came in such enormous numbers to feed in the rice-fields as to do considerable damage to the crop.

Querquedula circia, Linn. (Garganey or Blue-winged Teal).—This is about the commonest Duck here in the cold weather, and one of the earliest to arrive, as I have seen several in August. It is possible that some remain to breed in the plains, as has been suggested by some ornithologists, but there is no authentic record of its having done so as yet.

Spatula clypeata, Linn. (Shoveler).—Fairly common. They begin to arrive in November, and stay sometimes to the end of April. This species is very wary and difficult to approach, and is the first Duck on the water to take alarm. It does not dive when wounded (at least, this is my experience), as most Ducks do, but tries to reach cover if there be any near.

Netta rufina, Pall. (Red-crested Pochard).—Extremely common, arriving in October and leaving in March.

Nyroca ferina, Linn. (Pochard).—Scarce. A small flock was seen at Dalsingh Serai in January, 1900. I bought off a native fowler a fine male in November, 1900, and shot another at Dalsingh Serai in January, 1901, out of a small flock. Mr. F. Finn, in his book, 'How to know the Indian Ducks,' says: "A male's eyes have been observed to change colour from red to yellow when it was handled." This was the case with the first

specimen I procured. On July 9th, 1901, a native fowler brought me in a Pochard in female garb, which on being dissected turned out to be a male. Was this a late stayer or an early arrival? The bird was in good condition, and the testes were enlarged, so it is just possible it may have bred somewhere near at hand.

N. ferruginea, Gmel. (White-eyed Duck).—Exceedingly common, though in the season 1901 I did not notice them so common as in previous years. They begin to arrive in September, and leave in April.

N. fuligula, Linn. (Tufted Duck).—A very irregular migrant. During 1899–900 I only got two specimens, but in the season 1900–01 ten were brought in by native fowlers, and I saw several when out shooting. Once when I was Duck-shooting I saw a small flock of these birds, and, on firing at them whilst they were sitting, I was surprised to see them all disappear under water, instead of flying away, as I expected.

Podicipes cristatus, Linn. (Great Crested Grebe).—Not at all common, and I only procured one specimen myself, and saw two or three others.

P. albibennis, Sharpe (Little Grebe or Dabchick).—Very common on almost every piece of water. It commences breeding in July. In the year 1900 I had a good opportunity of watching a pair nesting on a small pond. Both birds during this time kept up a curious "rattling" cry, though they are quite silent at other times of the year. The nest was made of rotting water-plants, and the eggs were always kept covered up. Both birds seemed to trust more to the heat of the sun for the hatching of the eggs than to the usual mode of incubation, and I never saw either bird sitting during the day. They appeared to be very restless, and kept on taking short flights across the pond, making a good deal of noise. The male bird was most attentive to the female during the period of incubation, always keeping close to her, and feeding her with small fish and aquatic insects. The young, when first hatched, are pretty little creatures, covered with greyish down striped with black. I once surprised a party of these birds, consisting of one old one and five young. The young at once tried to conceal themselves by hiding among the weeds, while the old one tried to draw my attention from them by fluttering, as if wounded, in front of

my boat. The usual number of eggs varies from two to five in number.

P. nigricollis, Brehm ? (Eared Grebe).—In December, 1897, whilst out shooting Duck on a big broad, I saw a Grebe, which I am nearly certain was this species; but not collecting birds at the time, and knowing very little about Indian birds, and also not wishing to frighten the Duck by firing, I did not shoot it. Since then I have examined specimens of the Eared Grebe, and they exactly resemble the bird I saw. This Grebe has been procured in Calcutta, and will almost certainly be found here.

ROUGH NOTES ON DERBYSHIRE ORNITHOLOGY
1900-1902.

By THE REV. FRANCIS C. R. JOURDAIN, M.A., M.B.O.U.

BEFORE resuming these notes, it may be as well to put on record two incidents omitted from my last paper (Zool. 1900, pp. 428-431). Two Whimbrels and a single Curlew, which had haunted a bleak hill-top near Swinscoe for a day or two, were killed on April 30th, 1899. This was on the Staffordshire side of the River Dove, and is the only recorded instance in which the Whimbrel has been killed in Staffordshire, although Mr. R. H. Read saw a small flock in Sept., 1886. A Water-Rail's nest was found at Sudbury with three eggs, at the end of July in the same year.

1900.

An extraordinarily early arrival of Fieldfares was reported by Mr. J. Henderson from the high ground between Ashburne and Buxton. Small flocks were seen here by Sept. 6th, and a week or so later others were noticed at Bradley and Ashburne. This is the only occasion on which I have known these birds to arrive in the county before October. A young Lapwing which was sent to A. S. Hutchinson for preservation, from near Melbourne, was a pale buff or cream-colour all over, with the exception of a few white feathers. Later in the year another beautifully-feathered cream-coloured bird was caught alive on the sewage farm at Egginton, but unfortunately was not preserved; and other light-coloured individuals were seen, but not secured (G. Pullen). A Black Tern was killed in the late summer at Etwall, and a Great Crested Grebe shot at Osmaston-by-Ashburne.

A Corncrake was reported ('Field,' Jan. 5th, 1901) to have been shot at Clifton on Dec. 26th, but it is quite possible that the bird may have been a Water-Rail; a gentleman who saw the bird assured me that this was the case. Up to Christmas the

weather was very mild and wet, and no snow fell till after New Year's Day.

1901.

A fair number of Woodcock were seen and shot in the Dove Valley in January. Three were killed in one afternoon at Norbury, where it is usually rather a scarce bird. On Jan. 17th (not 27th, as stated in the 'Field') a Bittern was shot at Spōndon. The Wild Ducks at Osmaston began to breed exceptionally early, and a nest with seven eggs was found on Feb. 27th, and another with four eggs on March 2nd. On March 18th a Starling's nest between Bradley and Ashburne contained four eggs, quite a month before the usual date. Curiously enough, this was the same place where a nest was found in January, 1898, with nearly fledged young ('Knowledge,' 1898). On April 17th a Long-eared Owl was put off a newly-built Magpie's nest in Bradley Wood, near Ashburne, which proved to contain one young Owl, two hard-sat eggs, and three mice. The Redshanks, which are annually increasing their breeding range in the Trent and Dove Valleys, made their appearance this spring for the first time in the meadows between Norbury and Calwich. Near Calwich Grey and Pied Wagtails nested within a few inches of one another in the hollow left in the masonry of a wall for the insertion of a plank bridge. Kingfishers' nests were, I am glad to say, very numerous during this season on the Dove. Mr. Storrs Fox has already recorded (Zool. 1901, p. 270) the Little Bustard shot at Middleton Top, near Youlgreave.

On examining a Hawfinch's nest found on May 20th, the lining was found to be composed entirely of pigs' bristles. In suitable spots these birds are quite common, and several pairs may be found breeding within a space of a few hundred yards. They are, however, exceedingly shy, and forsake their nests very readily if eggs have not been laid. Deserted nests are at once dismantled, and the lining frequently removed, probably to help in the construction of another nest.

A Nightingale was reported to me as singing in the Holly Wood, Snelston, on the 21st, and Mr. W. H. Walton ('Field,' May 25th, 1901) mentions two in full song at Ockbrook, and another at Mickleover. The eggs in a Redstart's nest, taken at Thorpe on May 22nd, were distinctly spotted. This type occurs

in Staffordshire and other parts of England, but I have not previously met with it in Derbyshire.

A Blackbird and a Thrush were sitting within a few feet of one another on the horizontal beams which supported the roof of a barn near Ashburne on May 29th. In both nests the eggs were pale blue, either entirely without spots, or with only a few faint rusty markings. The Thrush's eggs, which were hard-sat, had much more gloss than the Blackbird's, but in colour the two clutches were almost exactly alike. A pair of Great Crested Grebes, which had apparently bred, were killed at the end of May near Chellaston, and early in the year one of a pair was unfortunately killed at Kedleston, and probably prevented from breeding there.

Two nests of the Tufted Duck at Osmaston, examined on June 12th, contained sixteen and eighteen eggs respectively; but there were three couple of Ducks about the place, and only two nests at this time, though another was made subsequently.

A Willow-Wren was sitting on four eggs in the middle of a strawberry-bed at Clifton on July 3rd, a somewhat unusual position for the nest. A Common Tern was noticed hovering over the Dove at Hanging Bridge on Aug. 24th. On Sept. 15th a Wood-Pigeon's nest with two eggs was found at Clifton, but, late as this nest was, it was not the last record for the season, for a Goldfinch's nest at Marchington contained three young, almost ready to fly, on Oct. 2nd (W. T. Mynors).

This year Mr. W. Storrs Fox informs me that a Dunlin's nest with four eggs was found on the Redmires Moors, and one of the old birds shot for identification. Although the Dunlin has long been supposed to breed in this district, this is the first time that eggs have been actually taken. A cream-coloured variety of the Jackdaw and a Magpie, in which the black plumage was replaced by light brown, were recorded from the Ashburne district.

The great snowstorms of December drove many Red Grouse from the North Derbyshire moors in a southerly direction. In the Dove Valley packs were reported from Kirk Ireton (J. B. E. Blackwall), and a single bird was flushed near Cubley.

1902.

The year opened with heavy floods in the Derwent Valley on the melting of the snow. Near Matlock the river rose over ten feet. Here a Bittern was shot about Jan. 2nd, and early in February a Waxwing was also killed at Matlock Bridge (R. Hall).

At the beginning of March a flock of four or five Great Black-backed Gulls were seen at close quarters one misty morning in the Dove Valley near Alsop Station (J. Henderson). Several Great Snipe were shot in the course of the winter in the low country round Derby. A very pretty Blackbird, with a pure white head and bold splashes of white on the body, was sent to A. S. Hutchinson for preservation.

The Redshanks did not return to the meadow near Norbury where they nested in 1901, but two pairs were reported to me as nesting near Uttoxeter, on the Staffordshire side of the Dove; and Canon Molineux tells me that he found a pair breeding in marshy ground not far from Staveley; so that this species is beginning to establish itself in the north-east as well as the south-west of the county.

Both cock and hen birds were roosting in a Long-tailed Tit's nest at seven p.m. on April 28th. The nest contained eleven eggs, slightly incubated, and the head of one of the birds could be seen through the entrance-hole. The number of eggs in the Grey Wagtail's nest appears sometimes not to exceed three. A nest at Norbury contained three hard-sat eggs, and another at Repton three young birds.

A cock Pied Flycatcher was seen in the Callow Wood, near Ashburne, on May 4th, by Mrs. Henniker; and on May 7th a Cuckoo's egg was found in a Hedge-Sparrow's nest—rather an early date for a Cuckoo to lay in this district. Another Cuckoo's egg, found near Dovedale on May 31st, was laid in a forsaken nest of the Blackbird, which contained a single egg. A third, also laid in a Blackbird's nest near Ashburne, hatched out successfully, and the young Cuckoo expelled the Blackbird's eggs. Grasshopper-Warblers were even more numerous than in 1901. Two nests which I saw were placed in high tussocks of coarse grass, and were quite invisible from above without parting the grass. The Cuckoo's note was heard daily till July 9th, and

on Aug. 28th Swifts were still flying around their nesting-place at Ashburne (A. Evans).

Early in the third week of August two Curlews (probably disturbed by the Grouse-shooting on the moors) made their way down the Dove Valley, and remained for a day or two near Mayfield.

A note appeared in the 'Field' of Aug. 2nd, from Mr. C. R. Gurney, stating that the Siskin had bred this year at Repton, in a low tree six feet from the ground, and that the eggs were fertile.

The year 1902 was remarkable for the cold and wet summer, and the unusually prolonged stay of some of our migratory visitors. The autumn song of the Chiffchaff was heard pretty regularly till Sept. 15th; and subsequently at intervals till Oct. 2nd, the latest date recorded for the county.

THE INDIAN PARIAH KITE (*MILVUS GOVINDA*):
A RECORD OF OBSERVATIONS MADE DURING
THE NESTING PERIOD.

By J. S. COSTELLO.

AN unique opportunity having presented itself for watching the habits of this bird during nesting, it was suggested that I should take notes of all the observations I made. The spot selected for the nest was the corner of a narrow abutting wall just below a window casement, so that I could without any difficulty have a close view of it at all times.

The nest I found was a heterogeneous medley of branches, bones, twigs, old pieces of cloth, leaves, and a few bones. This is curious in the light that the nests of most birds, with perhaps the exception of the Indian Crow, are usually composed of the branches and twigs of trees. I am unable to say definitely how long the process of completing the nest took, but it must have been over a week, as I had for many days noticed a gradual increase of the above-mentioned refuse, though at the beginning I had no idea as to how it originated. The event occurred in January, from which I infer that it is during the spring months of the year that this species of Indian Kite lays its eggs.

Unfortunately, in the present case I have not been able to determine the exact day on which the eggs were laid. I found two in the nest. To all appearance they resemble a large-sized fowl's egg. I noticed that the female did not incubate continuously all day. Occasionally I have seen it perched on the terrace of the building, occupying a position whence it could plainly see its nest, and when I opened the window it would come sweeping down, or, if in the nest, fluttered away, shrieking all the time, and circling about in front of its nest. This it would continue to do until the window was closed, when it settled down peacefully in its nest. On two or three occasions I went on the terrace to ascertain how it would

behave, and then my advent caused immediate alarm. Both the male and female Kites would hover about excitedly just above my head, and if I approached, however cautiously, too near the spot where the nest was, they swooped down quite close to me, as if threatening to attack.

The male bird invariably sat on the terrace, probably keeping sentry over the nest against possible invaders of its kind. I have never found it in closer proximity to the nest. At certain times in the day it was not there, being away most probably in search of food. I have noticed the absence of the female too for short periods, doubtless on the same errand as its mate.

On the morning of the 4th February, *i. e.* after an incubation of about three weeks' duration, I found that one egg was hatched. The young one was somewhat larger than a newly-hatched chicken. It had the usual amount of downy feathers, of an ashy hue, distributed over the body. The beak was very prominent, exhibiting markedly the characteristic curve of its species. When any kind of noise was made within its hearing it would feebly flutter its tiny wings, and behave as do young birds when a morsel is offered to them. The mother-bird was generally away in the mornings in search of food—a fact I knew from the circumstance that upon its return I invariably found bits of bone and other offal lying near the nest. The male was always somewhere near during these intervals of absence of its mate, for no sooner did I show myself at the window, then it would appear hovering about in front of the nest in a threatening manner, and, with its shrill piercing tones, endeavour to frighten me away. This it would never desist doing until I disappeared.

On the morning of the 7th I found the other egg was hatched, *i. e.* on the third day after the first one. This bird was smaller than its companion, which was all the difference that could be traced, and it appeared that they did not show nearly so much vitality as the young of other birds do directly after they have emerged from their eggs. They were usually to be seen nestled together asleep, and only when being fed or disturbed did they utter their feeble cries. I was not able to determine exactly whether the mother fed its young at regular

intervals. Judging, however, from the fact that it occupied itself all day in sheltering the fledglings in the nest, I am inclined to the belief that the mornings were generally selected by the mother as the feeding-time, and sometimes, though not often, during the afternoon. Now and again it was my custom to place a piece of meat on the window-sill, which the parent bird would carry to its nest, and make a meal of, not forgetting its progeny. In order to find out how it would behave when subject to terrorism while in its nest, I attempted on one or two occasions to frighten it with a stick, but, nothing daunted, it immediately assumed a threatening attitude, and commenced a series of assaults on the offensive object with a ferocity born of an instinctive resolve to defend the little brood and itself to the utmost. If I persisted in my efforts at intimidation, it would fly away, but only to return immediately and renew its formidable defence. On the withdrawal of the stick it would resume its peaceful avocation in the nest.

On the 21st February I found the younger fledgling dead in the nest. It was quite flattened out, a circumstance indicating that the mother must either have trampled it to death by accident, or sat upon it too heavily. The carcase was intact, but on the fourth day after the occurrence there was nothing left but a few fragments scattered about; the mother, apparently knowing that the bird was dead, had made a meal of it.

The nest itself now was more or less a mass of bones, causing it to emit a most obnoxious smell, and this offal doubtless formed the daily collection of food.

The other fledgling was growing apace, and its permanent feathers were now beginning to appear. It could stand erect and move about, though in a languid way, in the nest. The male bird continued keeping his accustomed watch on the terrace, while the female devoted her attention towards rearing the young, and bringing in the daily supply of food. I was particularly struck with this division and assignment of duties, conforming doubtless with some hidden rule which finds its analogy in the sphere of human relations.

The development of the young bird was gradual. As the days succeeded each other, and it became stronger and larger in stature, it would walk along the narrow edge of wall, ever and

anon preening its feathers, or gazing silently at its surroundings. The wild and untameable instincts of the Kite manifested themselves in this young fledgling, for whenever it saw me at the window, it would erect its feathers and wear a fierce aspect. Though the mother did not now sit on the nest, it was always close by, as if in tender solicitude for the safety of its young one.

On the 14th of March, *i. e.* thirty-nine days after it had come out of its egg-shell, I found that the young bird had flown—gone to play its humble part with its fellows in the great economy of life.

Calcutta.

NOTES AND QUERIES.

AVES.

A British example of the White-spotted Bluethroat.—At the meeting of the British Ornithologists' Club, held on Oct. 22nd, I had the pleasure of exhibiting the first authentic British-killed White-spotted Bluethroat (*Cyanecula wolfi*). This example—a fine adult male—was picked up dead close to the lighthouse at Dungeness, Kent, by a man named Gasson, on Oct. 6th of this year, and sent by him to Mr. Bristow on Oct. 8th, who on that date brought it up to me for examination in the flesh. My best thanks are due to Mr. Bristow for bringing it to me, and for lending it to me for exhibition.—M. J. NICOLL (10, Charles Road, St. Leonards).

The White Wagtail (*Motacilla alba*) on the Somerset Coast.—Mr. William Eagle Clarke, who deserves the gratitude of all ornithologists for the trouble he has taken in working out the migratory movements of some of our British birds, considers that the White Wagtail visits our islands chiefly as a bird of passage, *en route* to and from some northern breeding grounds, and that the west coasts of Britain form the main route followed by the migrants (see Third Interim Report of Committee appointed by the British Association to work out details of Bird Migration). As any evidence in support of a theory is useful, I may say that according to my experience this species is by no means uncommon on the coast of Somerset at the time of the spring migration. I have frequently noticed White Wagtails during the month of April on the sands near Weston-super-Mare, usually singly or in small parties consisting of two or three birds. The following dates of occurrences are taken from my note-books:—1898, April 12th and 18th; 1900, April 20th, 21st, and 27th; 1902, April 18th. During a ramble along the coast on April 28th, 1902, I saw several of these birds between Blue Anchor and Watchet, and an observer at Minehead has informed me that they occur on the shore there in spring in good numbers, but only remain a short time. The species has also been noticed near Bristol, so it seems to be well distributed along the Somerset coast at the time of the spring passage, and if looked for at that time, when it may easily be distinguished from the Pied Wagtail

(*M. lugubris*), could probably be noticed every year in considerable numbers. With regard to the return passage in autumn, I have only two records from personal experience. About Sept. 10th, 1898, I saw one not far from Porloch ; and on Sept. 3rd, 1899, I saw an adult and an immature bird near Weston-super-Mare. These dates are consistent with Mr. Eagle Clarke's statement that "the return passage commences with mid-August, and is over by mid-September." — F. L. BLATHWAYT (Lincoln).

Water Pipit (*Anthus spipoletta*) in Sussex.—On Oct. 29th, whilst at Rye Harbour, Sussex, I shot a Pipit which flew over my head in company with another, and which proved to be an immature female specimen of *Anthus spipoletta*. I sent it to Mr. Howard Saunders for identification, and he kindly exhibited it for me at the November Meeting of the British Ornithologists' Club, as I was then abroad. This is, I believe, the eleventh British record, and the sixth for Sussex. Mr. Borrer (cf. 'Birds of Sussex') mentions four, and the fifth for Sussex was obtained at Hollington, Sussex, in February, 1900, and exhibited at a meeting of the British Ornithologists' Club by Mr. N. F. Ticehurst. This species seems to be distinguished from the Rock-Pipit by its whiter breast and under tail-coverts, its slightly browner back, and by having the outer pair of rectrices nearly pure white, as well as a large wedge-shaped white spot on the second pair.—M. J. NICOLL (10, Charles Road, St. Leonards).

Nesting of the Hawfinch in Breconshire.—The Hawfinch (*Coccothraustes vulgaris*), which appears to be increasing in this county, nested here last summer at least once, and probably twice or thrice, though absolute proof of its having done so is only forthcoming in one instance. Like the Cirl Bunting, which was first discovered nesting in Breconshire in 1890, it is, as a resident, evidently extending its range westward. I am not at liberty to name the exact localities where it occurred last summer, as in one case the Wild Birds' Protection Act was infringed, and there are other reasons for not doing so. The nest which was found was situated in the west of the county, in an orchard adjoining a large garden where peas are extensively grown. This is, no doubt, the most westerly point in Wales, and possibly in Great Britain, where the Hawfinch has so far been found to breed. The birds had been previously seen by the finder of the nest about this orchard, and on June 9th last he succeeded in locating it. It was placed on a horizontal branch of an apple tree about fifteen feet from the ground, and contained one typical egg. I went with him shortly afterwards to see the nest, which, viewed from the ground, looked rather like a

Turtle-Dove's, but was more solidly built. Hawfinches have been seen about the gardens near the locality above referred to for several years in the act of attacking the peas, and on two occasions several were shot. One of these—an adult male—is preserved in a Brecon collection. At another place, in the centre of the county, a small flock of Hawfinches, probably a family party, were found eating the peas in July last, and some of them, which were in the spotted plumage peculiar to very young birds, were shot. One of these is now in the collection of one of my neighbours. About the same time, in the east of the county, a flock were also detected damaging the peas in a large garden near Crickhowel. The Hawfinch has been observed nesting near this village several times in previous years.—E. A. SWAINSON (Woodside, Brecon).

Little Bunting at Durham.—This bird (*Emberiza pusilla*) was shot on the slag-bank at the Durham side of Teesmouth on Oct. 11th, after about a fortnight of east and north-east winds. Mr. C. Milburn and myself were walking along the top of the bank when we flushed it out of some rough grass at the side. We would have passed it for a female Reed-Bunting, but it uttered a different call—a sharp “cit”—so I shot it, and had it forwarded to Mr. Ogilvie Grant for identification. It was exhibited at the British Ornithologists' Club on Oct. 22nd, and is now in my possession. This is the second recorded British specimen.—C. BRAITHWAITE (Sea View Terrace, Seaton Carew).

Migration of Jays.—The communication on this subject by Mr. G. B. Corbin (*ante*, p. 484) explains to me the cause of a large influx of *Garrulus glandarius* into this district during the last few weeks. Knowing pretty well the average amount of this species bred annually in the district, their sudden increase surprised me, and I was at a loss to account for it. There are still an unusual number here, but evidently the greater part have gone onwards, probably westward. I have had as many as ten or twelve at once in the field opposite my windows, and frequently half a dozen or more at a time pecking the acorns off a Turkey-oak tree close to my “den” window. I had forgotten the recorded immigration of this bird in 1883, referred to by Mr. Corbin, and have no note on the subject; but at any rate I can safely say that there has been no such an influx here, since then, as that which I have now recorded. I have, however, a note in October, 1861, that “numbers of Jays came here this month, and devoured the apples picked up into heaps for cider-making.” That this might be the result of an immigration did not occur to me, and I evidently construed their presence to be simply due to the local attraction of my apple-heaps,

bringing together the normal Jay-population of the district.—O. PICKARD-CAMBRIDGE (Bloxworth Rectory, Dorset).

Glossy Ibis in Ireland.—Two specimens of this bird (*Plegadis falcinellus*) have been shot and sent to us for mounting—a male in fine plumage, shot at Lauwick, Co. Clare; female, shot near Wexford. Both birds are in immature plumage.—WILLIAMS & SON (Dame Street, Dublin).

A curious Water-Rail.—A Water-Rail (*Rallus aquaticus*) was shot close to this city on Nov. 18th, and brought to us for identification. The bird is entirely black, with the exception of the barred feathers on the sides, and the under tail-coverts, which are dull white; beak and feet black; eyes dark brown. We have seen white and cream-coloured varieties of this species, but this is the first instance of melanism we have met with during thirty years' experience.—WILLIAMS & SON (Dame Street, Dublin).

Knot inland in Cheshire.—A disabled Knot (*Tringa canutus*) was picked up at Bowdon, Cheshire, on the morning of Oct. 24th. The bird, which I saw in the flesh, had evidently been injured by striking the telephone-wires during the night. For three or four days previously the winds, S.W. or N.W., had been light, and on the night of the 23rd there was a slight breeze from the south-west, the greatest velocity of which was but twelve miles per hour, as recorded at a meteorological observatory eight miles away. From this we may reasonably conclude that the bird was a passing migrant, and not a storm-blown wanderer. To the best of my knowledge the Knot has never before been observed inland in Cheshire.—T. A. COWARD (Bowdon, Cheshire).

Notes from Suffolk.—Varieties of Fieldfare and Yellow Bunting.—On Nov. 20th I obtained in the flesh a very pretty variety of *Turdus pilaris*, recently shot at Thurston. It has the head, back, and wing-coverts spotted with white, and a single white primary in the left wing. Mr. Travis, the Bury birdstuffer, has lately set up a striking variety of the Yellow Bunting (*Emberiza citrinella*), apparently an adult male, which is practically entirely yellow, and looks at the first glance exactly like a pale Canary.

Peregrines in West Suffolk.—Two immature females of this species (*Falco peregrinus*), both of which I saw in the flesh, were sent to Bury for preservation during November. The first, an example of the pale type, was killed near Mildenhall about Nov. 3rd; the second, a much darker bird, was taken near Bury about the 16th.—JULIAN G. TUKE (Tostock Rectory, Bury St. Edmunds, Suffolk).

Ornithological Notes from Shetland.—On Nov. 8th I obtained a female Bullfinch (*Pyrrhula europaea*) in the garden here. This is, as far as I know, only the second authentic record of the bird in Shetland; for, though Messrs. Evans and Buckley mention a newspaper report of a bird having been shot in Unst about the beginning of February, 1898, no name is given as their authority. On July 12th I saw three Red-necked Phalaropes (*Phalaropus hyperboreus*), and one nest of four eggs. I was informed of the existence of three other nests with eggs in a neighbouring island, but had no opportunity of visiting the locality. The Great Skuas have this season started two new colonies in Unst. A Lesser Whitethroat (*Sylvia curruca*) was seen here by my wife and myself on Sept. 29th; we watched it for two days, after which it disappeared. This is the only Whitethroat I have seen during my four years' residence here. There were more Redwings (*Turdus iliacus*) this autumn than I have ever seen before. Fieldfares (*T. pilaris*) were not so plentiful as usual. Of the Red-breasted Merganser (*Mergus serrator*), I got two nests this summer; the birds have been fairly plentiful. A Water-Rail (*Rallus aquaticus*)—a male—was brought to me by a boy on the 9th of this month; he caught it in a drain close by the road. This bird is not very common here. Saw an Iceland Gull (*Larus leucopterus*) on Balta Island, Nov. 15th).

We have had most horrible weather since August—nothing but rain and gales, mostly from the S. and S.E. November half through, and corn in some places not yet in; some of it was only cut last week. Potatoes practically a failure this year also. I am going to experiment with trees again; the ones planted by my grandfather have been sadly neglected since his death twenty-two years ago, and, except in the large enclosure, are dying down, but I have got several hundred up this week, and am going to start planting to-morrow. There is no reason that I can see why trees should not grow, though of course they require care and attention. My mother planted a lot four years ago round her house, which occupies a most exposed situation, but they are all coming on well. It is curious that Frogs and Toads will not live here. I have tried them, but it seems no use; they just die off.—
T. EDMONDSTON SAXBY (Halligarth, Baltasound, Shetland, N.B.).

On the Songs of Birds.—Dr. A. G. Butler (*ante*, p. 247) remarks most truly that the songs of birds, when endeavoured to be represented in words, are usually quite unrecognisable. Verbal representations of birds' songs are usually given with much local colour, as in respect to a particular Thrush, who persisted day after day in shrieking out close to me, as I gathered the close-netted strawberries, "Greedy

man, greedy man; pick 'em, pick 'em!" The self-consciousness of the hearer is in many other respects often quaintly appealed to by Thrushes; but one of the most ludicrous of this kind is the quiet self-satisfied and oft-repeated remark I have heard from one of our Pigeons (I think it is the Stock-Dove), as I grubbed away for spiders under a tree, "Look at the fool, look at the fool!" The "Take two cows, Taffy" of the Ring-Dove is, of course, well known. What, however, I have now specially taken up my pen for, is to record by musical annotation a Blackbird's song, with which I was regaled in May, 1900, day after day, for at least three weeks. I did not search closely, but I believe the hen bird was "sitting" close by; at any rate, the old cock sang his strain every day within a radius of twenty yards, as I frequently watched him, and my "den" being also close by with the window open, I became very familiar with his ditty. I may remark that, so far as I could make out, he had no other song at all. The notes were very soft, but yet full, fluty, and rich, and the intonation perfect. I never once detected it either out of time or out of tune. The strain would be repeated, generally, several times in fairly quick but not hurried succession; now and then it was more distinctly piano than at other times, and occasionally there was a little variation in the expression. When at last the song ceased I felt for some time as if one of my chief pleasures of the day was gone. Meantime, I wrote the strain on a scrap of music-paper, *et voilà* :—



—O. PICKARD-CAMBRIDGE (Bloxworth Rectory, Dorset).

BIBLIOGRAPHY.

HAVING undertaken the Birds for the forthcoming 'Victorian History of Suffolk,' and being desirous that the list should be as accurate as possible, may I be allowed to say that I should be very grateful for records of the occurrence of Savi's Warbler, Fire-crested Wren, Cirl Bunting, Golden Eagle, and Roseate Tern? Also for records of the breeding in the county within the last twenty years of the Bearded Tit and Hobby; and at any date of the breeding of the Pied Flycatcher, Golden Oriole, Hoopoe, Hen-Harrier, Marsh-Harrier, Kite, Bittern, Ruff, Black-tailed Godwit, Sandwich Tern, Gadwall, and Tufted Duck?—JULIAN G. TUCK (Tostock Rectory, Bury St. Edmunds, Suffolk).

NOTICES OF NEW BOOKS.

Salmon and Trout. By DEAN SAGE, C. H. TOWNSEND, H. M. SMITH, and W. C. HARRIS. New York: The Macmillan Company.

THIS book forms one of the series known as "The American Sportsman's Library"; it transports us to the rivers and lakes of North America, and in the recital of its interesting theme we forget that we are anglers, and as naturalists absorb its interesting bionomical facts and observations. The Salmon has long possessed almost a literature of its own, and it is worthy of it; Mr. Dean Sage occupies the first section of the volume with his story of the Atlantic Salmon. We all know the perversity with which fish will respond to the allurement of the fly, and every angler has engraven on his memory the reminiscence of those hours when they would rise at anything. Even injuries will not prevent this experimental voracity. Mr. Sage has known instances of fish taking the fly when so badly hurt as to make it seem almost incredible that they should want to move. "I took one which had lately lost a good pound of flesh by a Seal bite, and saw one of twenty-three pounds taken, which I afterwards learned had been hooked, played, gaffed, and lost the evening before about half a mile below. In addition to the fly embedded in his jaw with a yard of gut fast thereto, he had a deep open gaff wound in his shoulder." "The Pacific Salmons" are described by Messrs. Townsend and Smith, and the fine species of *Oncorhynchus* and *Salmo gairdneri* (the last in reality a Trout) receive concise but ample treatment.

To Mr. W. C. Harris is given the subject of the "Trouts of America." These fish appear to have given no less sport to the angler than satisfaction to the systematist in the elaboration of species and subspecies, a question with which we are now happily quite unconcerned. The living adaptations to their environment by these fishes are remarkable. In the Yellowstone Lake, Trout

are especially abundant about the hot overflow from the Lake Geyser Basin. The hot water flows for a time on the surface, and Trout may be taken immediately under these currents, and they have also been known to rise to a fly through a hot scalding surface. The Utah Trout not only lives in an alkaline lake, but thrives there, growing to a weight of twelve or more pounds ; while a species of Salmon-Trout (*Salmo bathaeator*), found in Lake Crescent, Washington, lives in deep water, in some places over seven hundred feet, and does not come to the surface at any season of the year.

The illustrations of this book are very beautiful, especially to an old angler who now no longer follows the craft. But these pages promote one considerable reflection, which is, that when fish are less studied to be hooked, or primarily watched for that purpose, an observant naturalist may find a new field ; we want Gilbert White to follow Isaac Walton.

The Forests of Upper India and their Inhabitants. By THOMAS W. WEBBER. Edward Arnold.

MR. WEBBER as late Forest Surveyor for the North-West Provinces, and Deputy Conservator of Forests in the Central Provinces and Gorakhpur, has had unlimited opportunities for observing the natural history features of a varied faunistic region ; his official duties frequently took him to little visited spots ; his love of hunting wild game increased his experience, and he has written a book which may be well placed near Hooker's now classical "Himalayan Journals." The narrative, however, is not confined to the forest regions, and some of the most interesting chapters describe a journey to the roof of the world on the Tibetan frontier, an expedition which included the hunting of the Wild Yak (*Bos grunniens*), and that ancestral Sheep—*Ovis ammon*. On the mountain slopes near Gurla Mandhata the ground "seemed to be the breeding-place of all the Larks in India. Their nests were so numerous that one ran the chance of treading on them frequently. Indeed, all the birds and (other) animals except the Yaks were quite tame in this strange country. The mother Larks would sit within a yard of your feet, and almost let you put your hand on them, and the

white Hares, which abounded in some places, would sit up and stare at you not five yards off."

Although the principal zoological observations refer to the larger mammals, the ornithologist will find much very interesting matter. In the forests of the Bhabar, where the sal-tree (*Shorea robusta*) is probably the most dominant, or one-tree occupier of any forest in the world, many birds are noticed, and on open uncultivated flats the Spur-winged Plover (*Hoplopterus ventralis*) is found. Mr. Webber one day had an opportunity of seeing how useful this spur can be to the bird. "I saw one of these birds engaged in mortal combat with a snake which was trying to rob her nest, a perfectly bare spot on the bare ground. The bird got the best of the battle, inflicting some sharp spur blows on the serpent, which retired discomfited."

In practice there is probably no sport more exciting than the tracking and killing of large mammals; it is possible, however, that there is nothing more depressing than a long perusal of the operation. We sicken by our fireside, when without the excitement of the hunt we read of the crash of the bullet, and we visualize the efforts of the maimed quarry to escape. It is pleasant to learn from Mr. Webber that the inhabitants of the jungle do not regard man in India as an enemy, as shown by their extraordinary tameness, which "is a silent testimony from nature to the high humanity of the Buddhist and Hindu religions, which look on animal life as, alike with man's, divine."

Handbook of Instructions for Collectors. Issued by the British Museum (Natural History). Printed by order of the Trustees.

THERE are two conditions attached to all natural history collecting operations—one that the collector has his heart in the work, the other that he knows how to do it. This little work has been prepared to instruct any traveller, or colonist, who is anxious to learn how to assist the cause of natural history, and his great National Museum in London. There are simple rules for skinning and preserving vertebrates, and others for collecting and conserving invertebrates. The collection and preservation of plants and fossils are also described. This little book should be as necessary an item in the traveller's scanty baggage as is the proverbial tooth-brush.

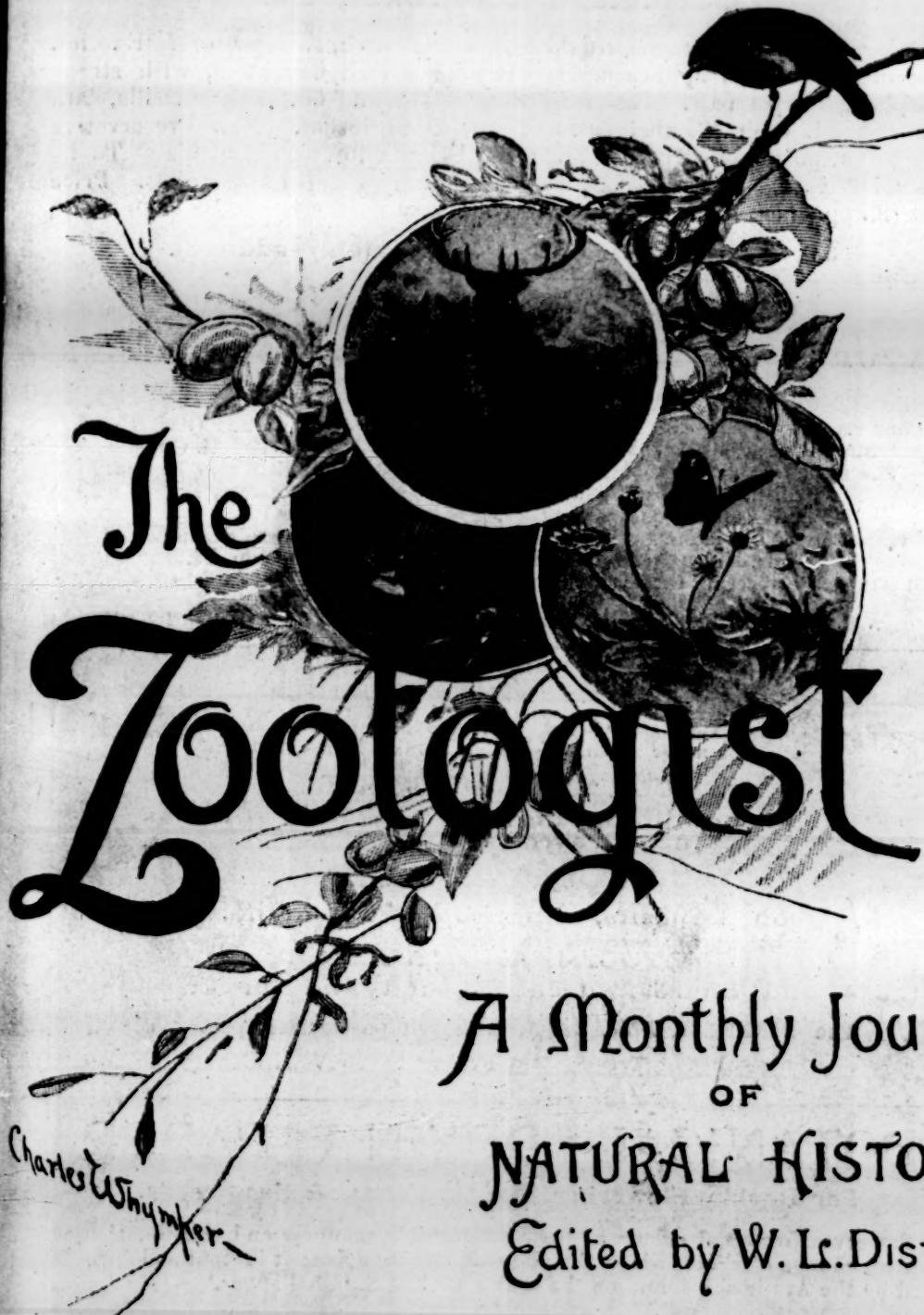


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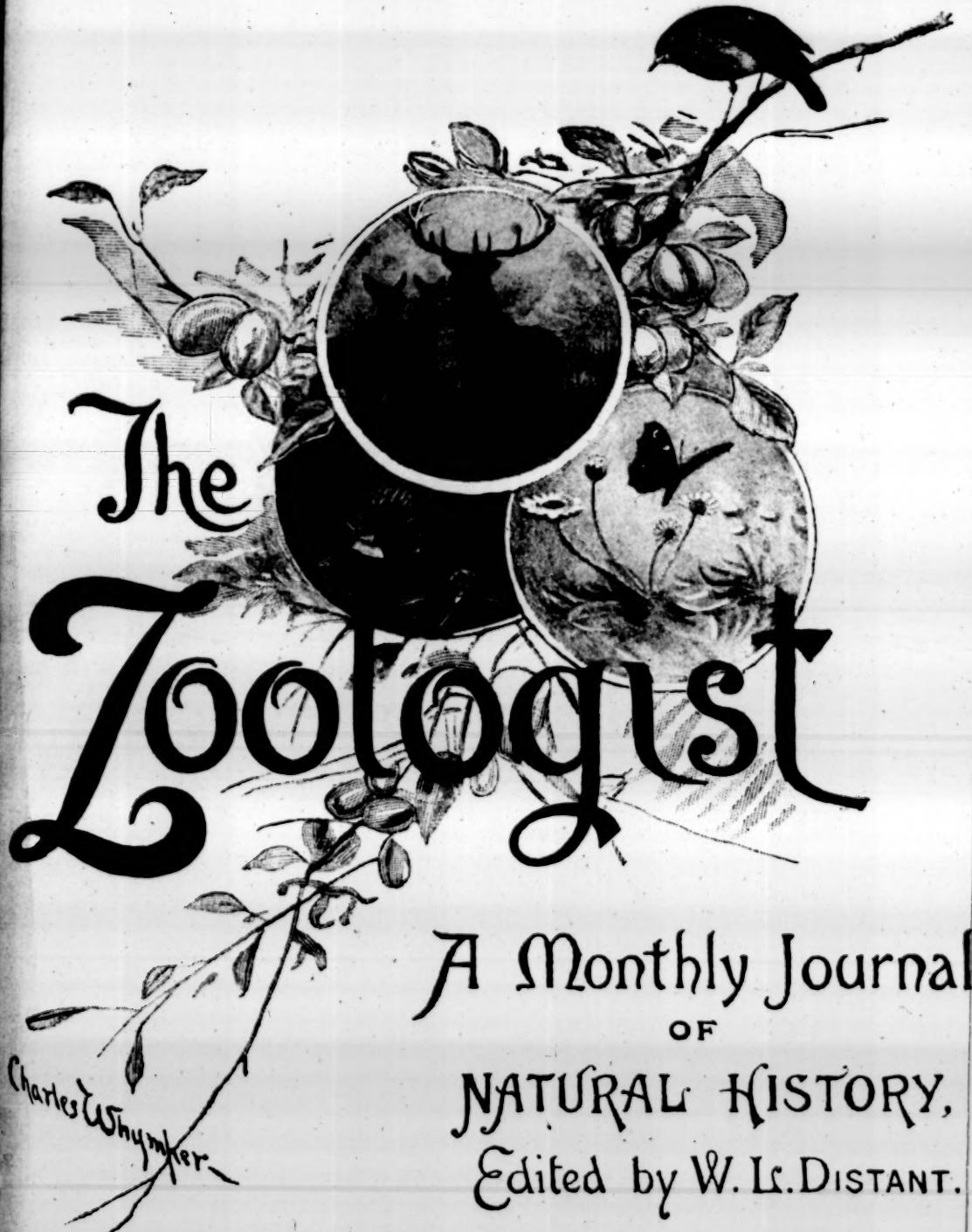


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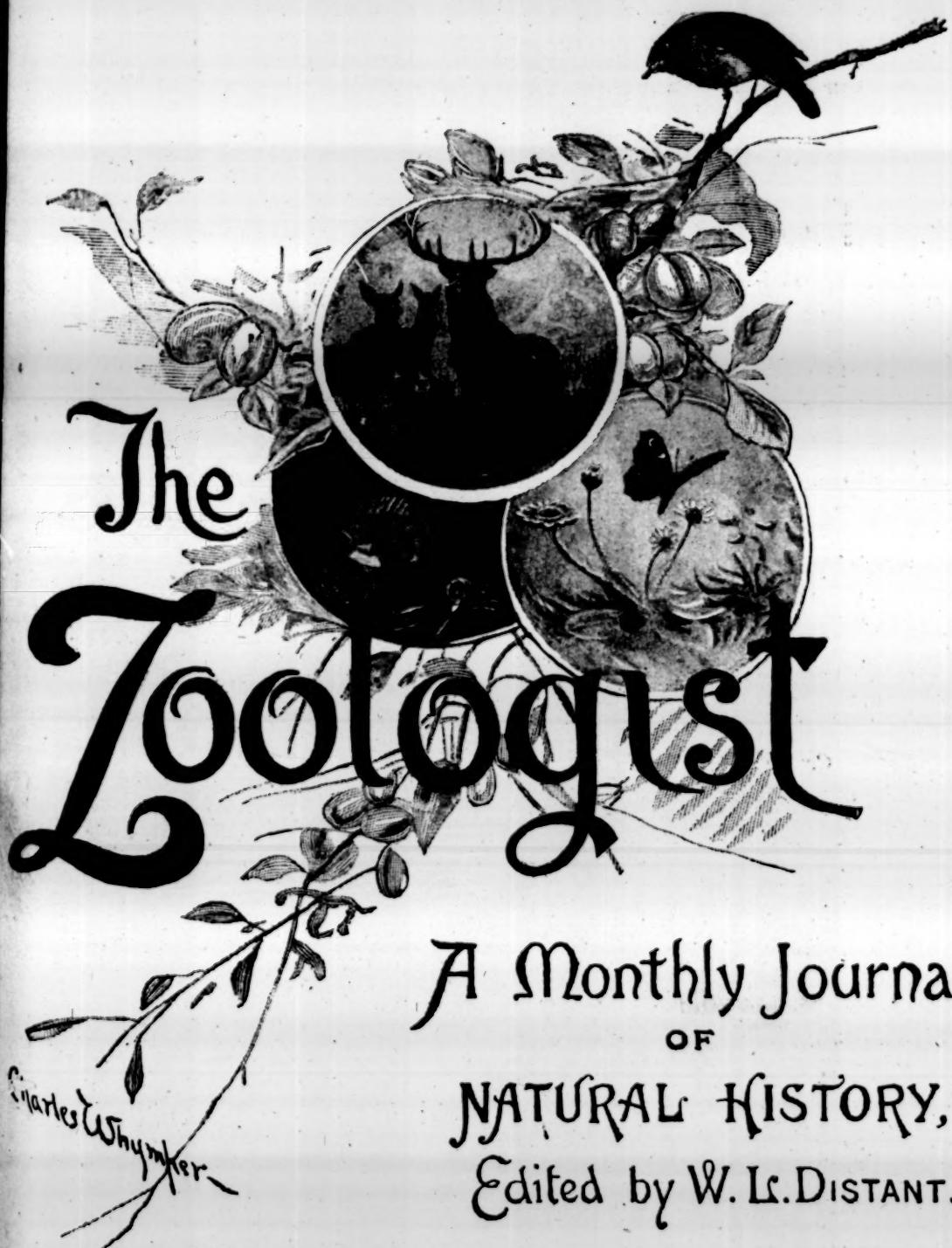
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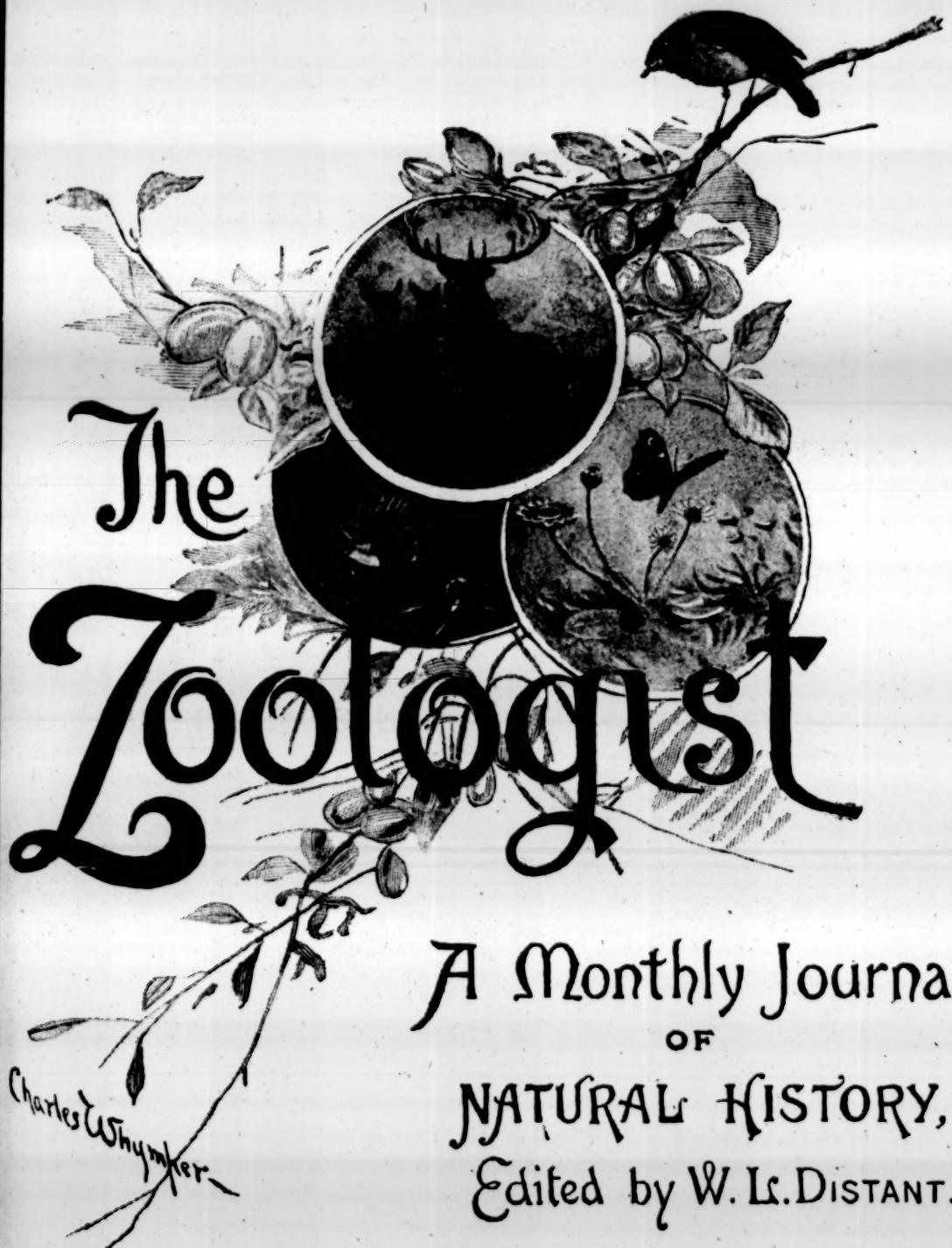
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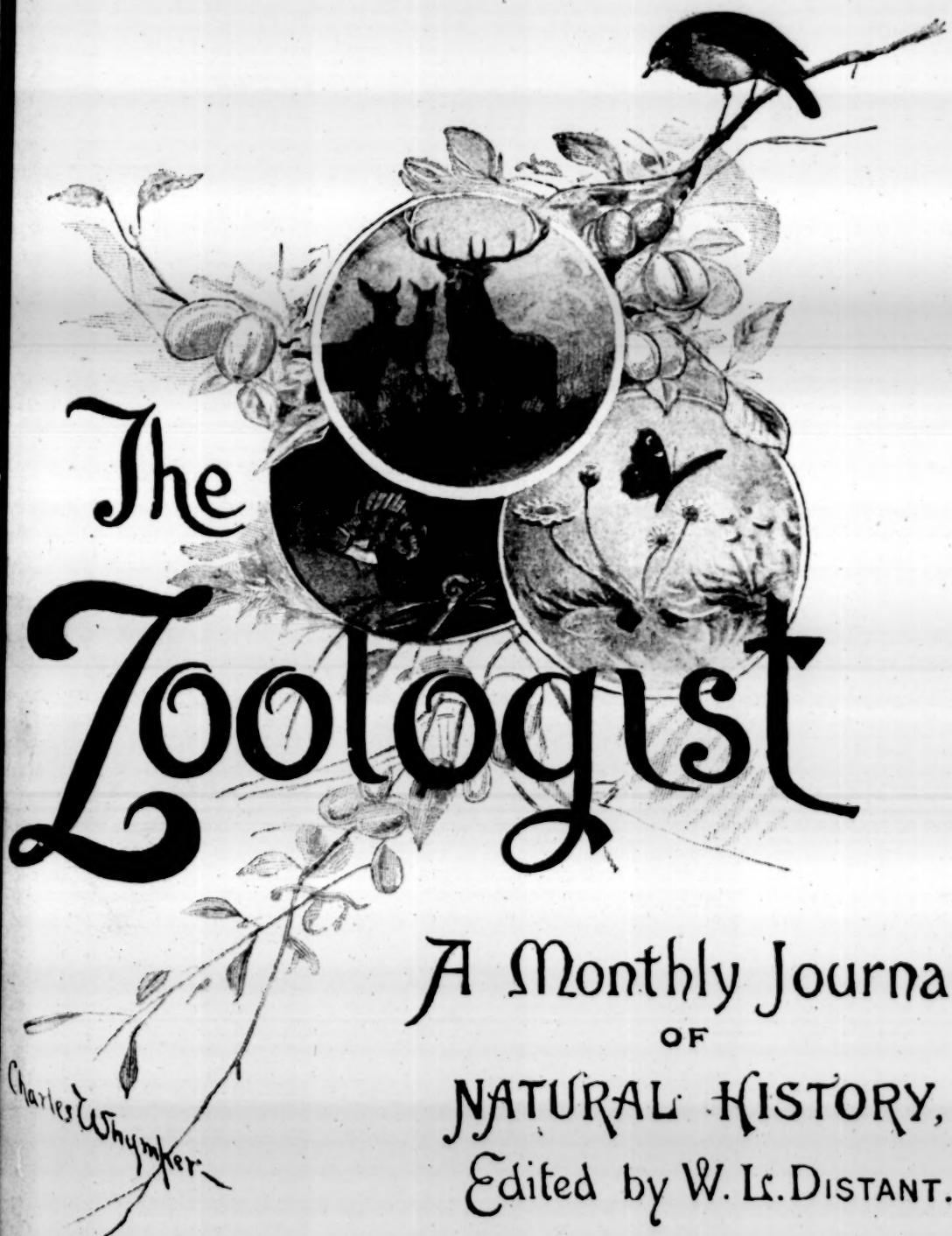
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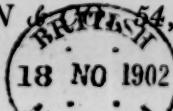
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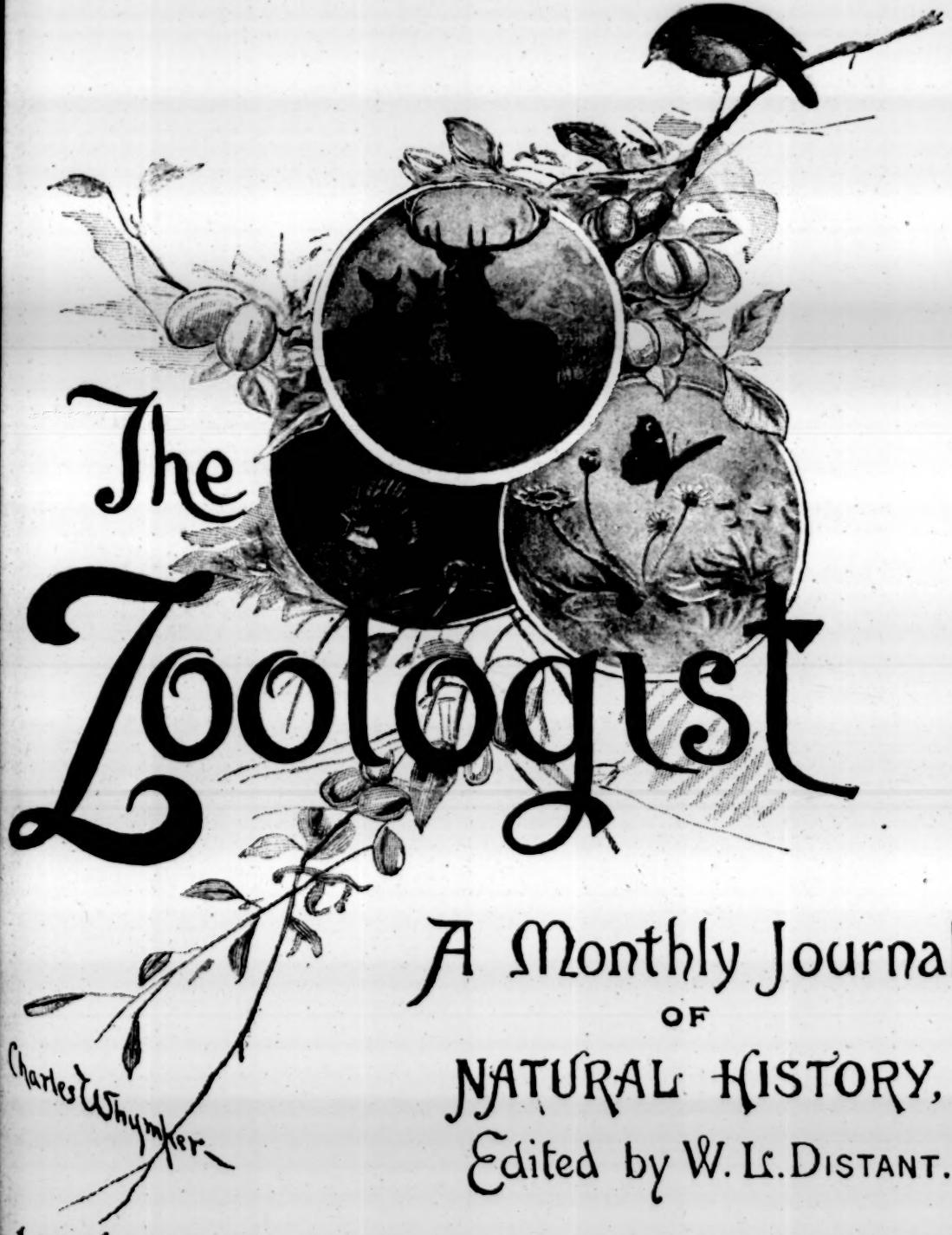
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